

What is claimed is:

1. A split-top RF coil for use in magnetic resonance imaging comprising:
a first housing (80) having a first RF coil portion (41) disposed therein;
a second housing (84) having a second RF coil portion (42) disposed therein;
a plurality of slides (100) disposed on at least one of the first and second housings;
and
a plurality of slide tracks (101) disposed on at least one of the first and second housings such that said tracks are opposite from the slides, the tracks for receiving the slides for mechanically coupling the first and second housings.
2. A split-top RF coil as set forth in claim 1 wherein at least one of the plurality of slide tracks comprises a ramp portion (350) for guiding movement in a first direction (y) between the first and second housings as the first and second housings are moved relative to one another in a second direction (z), the first and second directions being substantially perpendicular to one another.
3. A split-top RF coil as set forth in claim 1 further comprising:
a plurality of electric connector pins (110) disposed on at least one of the first and second housings; and
a plurality of pin receivers (111) disposed on at least one of the first and second housings such that the pin receivers are opposite from the conductor pins, the pin receivers for receiving the conductor pins for electrically connecting the first and second coil RF coil portions.
4. A split-top RF coil as set forth in claim 3 wherein the plurality of pin receivers comprise a plurality of prongs (540) for receiving the connector pins.
5. A split-top RF coil as set forth in claim 3 wherein the RF coil has a longitudinal axis (z) and mechanical and electrical connections between the first and second housings are made by sliding the first and second housings with respect to one another in the direction of the longitudinal axis.

6. A split-top RF coil for use in magnetic resonance imaging having a first axis (z), the RF coil comprising:
- a first housing (80) having a first RF coil portion (41) disposed therein;
 - a second housing (84) having a second RF coil portion (42) disposed therein;
 - mechanical coupling means for mechanically coupling the first and second housings by moving the first housing with respect to the second housing in the direction of the first axis (z); and
 - electrical coupling means for electrically coupling the first and second RF coil portions by moving the first housing with respect to the second housing in the direction of the first axis.
7. A split-top RF coil as set forth in claim 6 wherein the mechanical coupling means comprises:
- a plurality of slides (100) disposed on at least one of the first and second housings;
 - and
 - a plurality of slide tracks (101) disposed on at least one of the first and second housings such that said tracks are opposite from the slides, the tracks for receiving the slides for mechanically coupling the first and second housings.
8. A split-top RF coil as set forth in claim 7 wherein at least one of the plurality of slide tracks comprises a ramp portion (350) for guiding movement in a first direction (y) between the first and second housings as the first and second housings are moved relative to one another in a second direction (z), the first and second directions being substantially perpendicular to one another.
9. A split-top RF coil as set forth in claim 7 wherein the electrical coupling means comprises:
- a plurality of electric connector pins (110) disposed on at least one of the first and second housings; and
 - a plurality of pin receivers (111) disposed on at least one of the first and second housings such that the pin receivers are opposite from the conductor pins, the pin receivers

for receiving the conductor pins for electrically connecting the first and second coil RF coil portions.

10. A split-top RF coil as set forth in claim 9 wherein the plurality of pin receivers comprise a plurality of prongs (540) for receiving the connector pins.

11. A split-top RF coil as set forth in claim 3 wherein the first axis is defined by a longitudinal axis of the RF coil.

12. A magnetic resonance imaging apparatus comprising:

a magnet (10) for generating a main magnetic field within an examination region

(12);

a gradient coil assembly (30) for generating gradient magnetic fields within the examination region; and

a split-top RF coil (40) for at least one of transmitting and receiving RF signals within the examination region, the split-top RF coil comprising:

a first housing (80) having a first RF coil portion (41) disposed therein;

a second housing (84) having a second RF coil portion (42) disposed therein;

a plurality of slides (100) disposed on at least one of the first and second housings;

a plurality of slide tracks disposed on at least one of the first and second housings in opposition to the plurality of slides for receiving the plurality of slides whereby the first and second housings are mechanically coupled;

a plurality of electrical connector pins (110) disposed on at least one of the first and second housings; and

a plurality of pin receptors (111) disposed on at least one of the first and second housing in opposition to the plurality of connector pins for receiving the plurality of pins whereby electrical connections are made between the first and second RF coil portions.

13. A split-top RF coil as set forth in claim 12 wherein at least one of the plurality of slide tracks comprises a ramp portion (350) for guiding movement in a first direction (y) between the first and second housings as the first and second housings are moved relative to one another in a second direction (z), the first and second directions being substantially perpendicular to one another.
14. A split-top RF coil as set forth in claim 12 wherein the plurality of pin receivers comprise a plurality of prongs (540) for receiving the connector pins.
15. A split-top RF coil as set forth in claim 12 wherein the RF coil has a longitudinal axis (z) and mechanical and electrical connections between the first and second housings are made by sliding the first and second housings with respect to one another in the direction of the longitudinal axis.